

Alg. 2 ch. 7.4 p. 453 Total 20 points

#20 $16x - 6x^2 - x^3 = 0$; $-x^3 - 6x^2 + 16x = 0$

(5p)

$$-x(x^2 + 6x - 16) = 0; \quad -x(x+8)(x-2) = 0$$

$$x+8=0$$

$$\begin{array}{cc} -8 & -8 \end{array}$$

$$\underline{x_1 = -8}$$

$$-x=0$$

$$\underline{x_2 = 0}$$

$$x-2=0$$

$$\begin{array}{cc} +2 & +2 \end{array}$$

$$\underline{x_3 = 2}$$

#22 $20a^2 + 5a^3 - 60a = 0$; $5a^3 + 20a^2 - 60a = 0$

(5p)

$$5a(a^2 + 4a - 12) = 0; \quad 5a(a+6)(a-2) = 0$$

$$a+6=0$$

$$\begin{array}{cc} -6 & -6 \end{array}$$

$$\underline{a_1 = -6}$$

$$5a=0$$

$$\underline{a_2 = 0}$$

$$a-2=0$$

$$\begin{array}{cc} +2 & +2 \end{array}$$

$$\underline{a_3 = 2}$$

#24 $3y^3 + 36y^2 = 3y^4$; $3y^4 - 3y^3 - 36y^2 = 0$

(5p)

$$3y^2(y^2 - y - 12) = 0; \quad 3y^2(y-4)(y+3) = 0$$

$$y+3=0$$

$$\begin{array}{cc} -3 & -3 \end{array}$$

$$\underline{y_1 = -3}$$

$$3y^2=0$$

$$\underline{y_2 = 0}$$

$$y-4=0$$

$$\underline{y_3 = 4}$$

#26 $15y - 4y^2 - 3y^3 = 0$; $-3y^3 - 4y^2 + 15y = 0$

(5p)

$$-y(3y^2 + 4y - 15) = 0; \quad -y(3y-5)(y+3) = 0$$

$$y+3=0$$

$$\begin{array}{cc} -3 & -3 \end{array}$$

$$\underline{y_1 = -3}$$

$$3y-5=0$$

$$\begin{array}{cc} +5 & +5 \end{array}$$

$$3y=5$$

$$\underline{y_2 = \frac{5}{3}}$$

$$-y=0$$

$$\underline{y_3 = 0}$$